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10/527,333	03/08/2005	Pierpaolo Fava	007511.00018	3500

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EXAMINER	
MCADAMS, BRAD	

ART UNIT	PAPER NUMBER
2456	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/527,333	FAVA ET AL.	
	Examiner	Art Unit	
	ROBERT B. MCADAMS	2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-35 and 37-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-35 and 37-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the amendment filed on June 16, 2010.

2. Claims 1-10, 12-35 and 37-51 are pending.

Response to Arguments

3. Applicant's arguments with respect to Claims 1-10, 12-35 and 37-51 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-7, 9-10, 12-17, 20-35, 37-42 and 45-51** rejected under 35 U.S.C. 103(a) as being unpatentable over *Bearden* (U.S. PGPub. No. 2003/0086425 A1) in view of *Farber* (U.S. Patent No. 6,185,598) and in further view of *Mayton* (U.S. Patent No. 6,763,380).

As to **Claim 1,** *Bearden* discloses a method for analyzing access to a data communication network by a user, comprising:

tracing traffic of said user via a computer, and identifying a group of networks with which said traffic is mainly handled, by defining relative autonomous systems **(Traffic is monitored in a network and grouped into autonomous systems. Figure 17; Paragraph 0238)** and tracing the sequence of autonomous systems crossed by said traffic; the tracing including:

a first stage, to provide the list of paths of autonomous systems crossed by said traffic to reach each destination **(Path analysis is performed to list the paths of traffic through the autonomous systems to each destination. Paragraph 0174)** , and

a second stage, to aggregately elaborate said list of paths, outputting a tree representing all the paths of the autonomous systems crossed by the traffic of said user to reach each destinations **(Figures 16-17; Paragraphs 0227-0230)**

wherein said second stage comprises providing, in relation to the list of said autonomous systems crossed by said traffic of said user, at least one parameter including a percentage of use of the autonomous systems **(Various statistics are monitored to calculate the load on the autonomous system and the devices are shaded different colors in the tree to represent a given metric, such as device load, utilization, i.e. percentage of use. Paragraphs 0092 and 230).**

However, *Bearden* does not expressly disclose wherein said first stage comprises inputting a file and wherein a transmission of a traceroute message contains a configurable frequency.

Farber, in the same field of endeavor, teaches inputting a file containing the IP addresses representing the sites most frequently visited by said user and performing a traceroute function for each destination site, by tracing the path to reach each destination site **(NetMap procedure receives an input file composed of IP addresses of frequently visited destinations and uses traceroute tools to sample the data paths between the IP addresses. This data is used to create cost groups which are used to determine which repeater a client should use to retrieve frequently accessed sites. Column 2, Lines 37-51, Column 13, Lines 40-53).**

Mayton, in the same field of endeavor, teaches wherein the traceroute message is transmitted at a configurable frequency **(Column 13, Lines 14-31).**

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have combined the method of analyzing access to a network as taught by *Bearden* with including an input file as taught by *Farber* with a configurable traceroute frequency as taught by *Mayton*. The motivation would have been to allow the visualization of frequently visited sites.

As to **Claim 2,** *Bearden-Farber-Mayton* further teach the operation of determining the routing of said traffic on the branches of said tree, and the operation of associating the respective indicative values of the traffic that crosses the branch to the branches of said tree **(*Bearden;* Figures 16-17; Paragraphs 0227-230)**.

As to **Claim 3,** *Bearden-Farber-Mayton* further teach the operation of using hardware probes to trace the traffic of said user **(*Bearden;* SNMP monitoring device 320. Figure 4; Paragraphs 206-208)**.

As to **Claim 4,** *Bearden-Farber-Mayton* further teach the operation of configuring said hardware probes to provide information selected in the group consisting of: band use of the individual link, data volume, protocol-subdivision, IP address-subdivision, traffic matrix between the user (LAN) and the network **(*Bearden;* Paragraph 0206)**.

As to **Claim 5,** *Bearden-Farber-Mayton* further teach the operation of configuring said hardware probes to determine at least one selected item in the group consisting of: sites most frequently visited by the user, main networks to which the user addresses its traffic, and the origin of who connects up to said user **(*Bearden;* Paragraph 0213)**.

As to **Claim 6 and 7,** *Bearden-Farber-Mayton* further teach the operation of configuring said software agents to trace the traffic through the interface of the router of said user to determine the main traffic lines **(*Bearden;* Figure 13; Paragraphs 0178-0183)**.

As to **Claim 9,** *Bearden-Farber-Mayton* further teach the operation of providing a target machine for the transfer of the statistics obtained by said routers **(*Bearden;* Datastore 340; Figure 4; Paragraph 0209)**.

As to **Claim 10,** *Bearden-Farber-Mayton* further teach the operation of generating, as the result of said traffic tracing operation of said user, at least one parameter selected from the group consisting of: destination networks of said traffic, percentage of traffic involved, pertinent autonomous system **(*Bearden;* Paragraph 0213)**.

As to **Claim 12,** *Bearden-Farber-Mayton* further teach tracing said path as a sequence of autonomous systems crossed **(*Bearden;* Paragraph 0213)**.

As to **Claims 13 and 14,** *Bearden-Farber-Mayton* further teach wherein in said first stage said tracing operations are carried out repeatedly with a given frequency **(*Bearden;* Paragraph 0209)**.

As to **Claim 15,** *Bearden-Farber-Mayton* further teach wherein said second stage comprises the operation of generating a unique tree of paths of the autonomous systems crossed by the traffic of said user to reach all the destinations, the leaves of said tree being indicative of the destination subnetworks of the traffic of said user **(*Bearden;* Figures 16-17; Paragraphs 0227-230)**.

As to **Claims 16 and 17,** *Bearden-Farber-Mayton* further teach wherein said second stage comprises the operation of providing, in relation to the list of said

autonomous systems crossed by said traffic of said user, at least one parameter from: the percentage of use of the autonomous system, a time value for passing through said autonomous systems and a hops value inside the autonomous system **(*Bearden;* Paragraphs 0084 and 0225)**.

As to **Claim 20,** *Bearden-Farber-Mayton* further teach wherein said first stage comprises the operation of generating a data file including information selected from the group consisting of: order number of the autonomous system following the sequence of IP addresses provided by said traceroute function, text name of the autonomous system, identification number of the autonomous system, number of hops that a single tracing command has measured inside the autonomous system, and time of permanence in the autonomous system measured by a single tracing command **(*Bearden;* A traceroute performed, and a data entry is entered into the routing table of the autonomous system including the address and order of each router on the link. Figure 13; Paragraphs 0174-0178)**.

As to **Claim 21,** *Bearden-Farber-Mayton* further teach the operation of performing a plurality of said tracing functions in parallel during said first stage **(*Bearden;* Paragraph 0117)**.

As to **Claims 22 and 25,** *Bearden-Farber-Mayton* further teach wherein said second stage comprises the operation of storing information of correspondence

between IP addresses and the data relating to the pertinent autonomous systems **(*Bearden;* Figure 6; Paragraphs 0105-0116)**.

As to **Claims 23,** *Bearden-Farber-Mayton* further teach wherein said second stage comprises the operation of generating the leaves of said tree as identification of the destination subnetworks of the traffic of said user and the relative branches as identifications of the autonomous systems crossed by the traffic **(*Bearden;* Figures 16-17; Paragraphs 0227-0230)**.

As to **Claim 24,** *Bearden-Farber-Mayton* further teach wherein said second stage is performed in association with a central memory with a data structure that represents the paths generated in said first stage in the form of at least one aggregated list **(*Bearden;* Datastore 340; Figure 4; Paragraph 0209)**.

6. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Bearden* (U.S. PGPub. No. 2003/0086425 A1) in view of *Farber* (U.S. Patent No. 6,185,598) and in further view of *Mayton* (U.S. Patent No. 6,763,380) and in further view of *Agarwal* (U.S. Patent No. 5,958,010).

As to **Claim 8,** *Bearden-Farber-Mayton* teach configuring said software agents to analyze the operating status of the respective router in terms of CPU load **(Paragraph 0092)**.

Although *Bearden-Farber-Mayton* teach "various statistics" can be used to measure load, *Bearden* does not expressly disclose analyzing the operating status of the router in terms of available memory.

Agarwal, in the same field of endeavor, teaches analyzing the operating status in terms of available memory **(Column 7, Lines 33-45).**

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have combined the analyzing the operating status of the router in terms of CPU usage as taught by *Bearden-Farber-Mayton* with using a metric such as available memory as taught by *Agarwal*. Using said different performance monitoring metrics is well known in the art.

7. **Claims 18-19 and 43-44** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Bearden* (U.S. PGPub. No. 2003/0086425 A1) in view of *Farber* (U.S. Patent No. 6,185,598) and in further view of *Mayton* (U.S. Patent No. 6,763,380) and in further view of *Martija* (U.S. PGPub. No. 2002/0169857 A1).

As to **Claims 18-19 and 43-44,** *Bearden-Farber-Mayton* teach the method of tracing traffic as previously discussed in Claim 1.

However, *Bearden-Farber-Mayton* does not expressly disclose generating the name of the autonomous system to which the generated IP address belongs using a *whois* remote service.

Martija, in the same field of endeavor, teaches generating the name of the autonomous system to which the generated IP address belongs using a *whois* remote service **(Paragraph 0055).**

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have combined the traffic analysis system as taught by *Bearden-Farber-Mayton* with the using the *whois* service as taught by *Martija*. The motivation would have been to provide increased functionality.

Apparatus **Claims 26-35, 37-42 and 45-50** and Software code stored on a memory **Claim 51** corresponds to method **Claims 1-10, 12-17 and 20-25** and are therefore analyzed and rejected the same as previously discussed to method **Claims 1-10, 12-17 and 20-25.**

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT B. MCADAMS whose telephone number is (571)270-3309. The examiner can normally be reached on Monday-Thursday 5:30am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. B. M./
Examiner, Art Unit 2456

/Rupal D. Dharia/
Supervisory Patent Examiner, Art Unit 2400